

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Tony Fleming and Jean-Pierre Kinet

#3  
M.9-  
4/15/02

Application No.: Not Assigned Group Art Unit: Not Assigned

Filed: December 5, 2001 Examiner: Not Assigned

Title: CALCIUM-INDEPENDENT NEGATIVE REGULATION BY CD81 OF  
RECEPTOR SIGNALLING

Date: <u>12-5-01</u>
EXPRESS MAIL LABEL NO. <u>EV 010679812 US</u>

1c760 U.S. PTO  
10/004562  
12/05/01



INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents

Washington, D.C. 20231

Sir:

This Information Disclosure Statement is submitted:

under 37 CFR 1.129(a), or  
(First/Second submission after Final Rejection)

under 37 CFR 1.97(b), or

(Within any one of the following time periods: three months of filing national application (other than a CPA) or date of entry of the national stage in an international application; or before the mailing date of a first office action on the merits in a non-provisional application, including a CPA, or a Request for Continued Examination).

under 37 CFR 1.97(c) together with either:

a Statement under 37 CFR 1.97(e), as checked below, or

a \$180.00 fee under 37 CFR 1.17(p), or

(After the 37 CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)

under 37 CFR 1.97(d) together with:

a Statement under 37 CFR 1.97(e), as checked below, and

a \$180.00 fee under 37 CFR 1.17(p), or

(Filed after final action or notice of allowance, whichever occurs first, but on or before payment of the issue fee)

under 37 CFR 1.97(i):

Applicant requests that the IDS and cited reference(s) be placed in the application filewrapper.

(Filed after payment of issue fee)

Statement Under 37 CFR 1.97(e)

- Each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement; or
- No item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

Statement Under 37 CFR 1.704(d) (Patent Term Adjustment)

Applies to original applications (other than design) filed on or after May 29, 2000

- Each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in § 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.

[X] Enclosed herewith is form PTO-1449:

- Copies of the cited references are enclosed.
- All cited references are enclosed except those entered in prior application, U.S. Application No. 08/954,279, to which priority under 35 U.S.C. 120 is claimed. The earlier application contains copies of the cited references.
- The listed references were cited in the enclosed International Search Report in a counterpart foreign application.
- The "concise explanation" requirement (non-English references) for reference(s) [ ] under 37 CFR 1.98(a)(3) is satisfied by:
  - the explanation provided on the attached sheet.
  - the explanation provided in the Specification.
  - submission of the enclosed International Search Report.
  - the enclosed English language abstract.

[ ] Applicant requests that the following non-published pending applications be considered:

Examiner's  
Initials

\_\_\_\_ U.S. Patent Application No. [ ], by [inventor(s)], filed [ ], Docket No.: [ ]  
\_\_\_\_ U.S. Patent Application No. [ ], by [inventor(s)], filed [ ], Docket No.: [ ]  
\_\_\_\_ U.S. Patent Application No. [ ], by [inventor(s)], filed [ ], Docket No.: [ ]

Examiner

Date

[ ] A copy of each above-cited application, including the current claims, is enclosed.  
[ ] A copy of each above-cited application, including the current claims, is enclosed, except those entered in prior application, U.S. Application No. [ ], to which priority under 35 U.S.C. 120 is claimed.

The Examiner is requested to return a copy of the above list of pending applications indicating which references were considered with the next office communication.

It is requested that the information disclosed herein be made of record in this application.

Method of payment:

[ ] A check for the fee noted above is enclosed, or the fee has been included in the check with the accompanying Reply. A copy of this Statement is enclosed.  
[ ] Please charge Deposit Account 08-0380 in the amount of \$[ ]. A copy of this Statement is enclosed.  
[X] Please charge any deficiency in fees and credit any overpayment to Deposit Account 08-0380.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

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Dated: 12/6/01

FORM PTO-1449 (REV. 7-80) INFORMATION DISCLOSURE CITATION IN AN APPLICATION December 5, 2001 (Use several sheets if necessary)		ATTY. DOCKET NO. 1440.1088-005	SERIAL NO. Not Assigned
		APPLICANT Tony Fleming et al.	
		FILING DATE December 5, 2001	GROUP Not Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
AR	Jouvin, M-H.E., et al., "Differential Control of the Tyrosine Kinases Lyn and Syk by the Two Signaling Chains of the High Affinity Immunoglobulin E Receptor", <i>The Journal of Biological Chemistry</i> , 269(8):5918-5925 (1994)		
AS	Penhallow, R.C., et al., "Temporal Activation of Nontransmembrane Protein-Tyrosine Kinases Following Mast Cell Fc $\epsilon$ RI Engagement", <i>The Journal of Biological Chemistry</i> , 270(40):23362-23365 (1995)		
AT	Scharenberg, A.M., et al., "Reconstitution of Interactions Between Tyrosine Kinases and the High Affinity IgE Receptor Which Are Controlled by Receptor Clustering", <i>The EMBO Journal</i> , 14(14):3385-3394 (1995)		
AU	Lin, S., et al., "The Fc $\epsilon$ RI $\beta$ Subunit Functions as an Amplifier of Fc $\epsilon$ RI $\gamma$ -Mediated Cell Activation Signals", <i>Cell</i> , 85:985-995 (1996)		
AV	Paul, W.E., et al., "Lymphokine and Cytokine Production by Fc $\epsilon$ RI $^+$ Cells", <i>Advances in Immunology</i> , 53:1-29 (1993)		
AW	Scharenberg, A.M. and Kinet, J-P., "Early Events in Mast Cell Signal Transduction", <i>Chem. Immunol.</i> , 61:72-87 (1995)		
AX	Ravetch, J.V. and Kinet, J-P., "Fc Receptors", <i>Annu. Rev. Immunol.</i> , 9:457-492 (1991)		
AY	Shaw, A.S., et al., "Interactions of TCR Tyrosine Based Activation Motifs with Tyrosine Kinases", <i>Immunology</i> , 7:13-20 (1995)		
AZ	Choi, O.H., et al., "Calcium Mobilization via Sphingosine Kinase in Signalling by the Fc $\epsilon$ RI Antigen Receptor", <i>Nature</i> , 380:634-636 (1996)		
AR2	Guthmann, M.D., et al., "A Secretion Inhibitory Signal Transduction Molecule on Mast Cells is Another C-Type Lectin", <i>Proc. Natl. Acad. Sci.</i> , 92:9397-9401 (1995)		
AS2	Katz, H.R., et al., "Mouse Mast Cell gp49B1 Contains Two Immunoreceptor Tyrosine-Based Inhibition Motifs and Suppresses Mast Cell Activation When Coligated with the High-Affinity Fc Receptor for IgE", <i>Proc. Natl. Acad. Sci.</i> , 93:10809-10814 (1996)		
AT2	Wright, M.D. and Tomlinson, M.G., "The Ins and Outs of the Transmembrane 4 Superfamily", <i>Immunology Today</i> , 15(12):588-594 (1994)		
AU2	Fearon, D.T. and Carter, R.H., "The CD19/CR2/TAPA-1 Complex of B Lymphocytes: Linking Natural to Acquired Immunity", <i>Annu Rev. Immunol.</i> 13:127-149 (1995)		
AV2	Secrist, H., et al., "Ligation of TAPA-1 (CD81) or Major Histocompatibility Complex Class II in Co-Cultures of Human B and T Lymphocytes Enhances Interleukin-4 Synthesis by Antigen-Specific CD4 $^+$ T Cells", <i>Eur. J. Immunol.</i> , 26:1435-1442 (1996)		
AW2	Todd, S.C., et al., "CD81 Expressed on Human Thymocytes Mediates Integrin Activation and Interleukin 2-Dependent Proliferation", <i>J. Exp. Med.</i> , 184:2055-2060 (1996)		
EXAMINER		DATE CONSIDERED	

100-004562  
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FORM PTO-1449 (REV. 7-80) INFORMATION DISCLOSURE CITATION IN AN APPLICATION December 5, 2001 (Use several sheets if necessary)		ATTY. DOCKET NO. 1440.1088-005	SERIAL NO. Not Assigned
		APPLICANT Tony Fleming et al.	
		FILING DATE December 5, 2001	GROUP Not Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
AX2	Oren, R., et al., "TAPA-1, the Target of an Antiproliferative Antibody, Defines a New Family of Transmembrane Proteins", <i>Molecular and Cellular Biology</i> , 10(8):4007-4015 (1990)		
AY2	Boismenu, R., et al., "A Role for CD81 in Early T Cell Development", <i>Science</i> , 271:198-200 (1996)		
AZ2	Imai, T., et al., "Molecular Analyses of the Association of CD4 with Two Members of the Transmembrane 4 Superfamily, CD81 and CD82", <i>The Journal of Immunology</i> , 155:1229-1239 (1995)		
AR3	Angelisová, P., et al., "Association of Four Antigens of the Tetraspans Family (CD37, CD53, TAPA-1 and R2/C33) with MHC Class II Glycoproteins", <i>Immunogenetics</i> , 39:249-256 (1994)		
AS3	Mannion, B.A., et al., "Transmembrane-4 Superfamily Proteins CD81 (TAPA-1), CD82, CD63, and CD53 Specifically Associate with Integrin $\alpha_4\beta_1$ (CD49d/CD29)", <i>The Journal of Immunology</i> , 157:2039-2047 (1996)		
AT3	Berditchevski, F., et al., "A Novel Link Between Integrins, Transmembrane-4 Superfamily Proteins (CD63 and CD81), and Phosphatidylinositol 4-Kinase", <i>The Journal of Biological Chemistry</i> , 272(5):2595-2598 (1997)		
AU3	Ono, M., et al., "Role of the Inositol Phosphatase SHIP in Negative Regulation of The Immune System by the Receptor Fc $\gamma$ RIIB", <i>Nature</i> , 383:263-266 (1996)		
AV3	Burshtyn, D.N., et al., "Recruitment of Tyrosine Phosphatase HCP by the Killer Cell Inhibitory Receptor", <i>Immunity</i> , 4:77-85 (1996)		
AW3	Galli, S.J., "New Concepts About the Mast Cell", <i>The New England Journal of Medicine</i> , 328(4):257-265 (1993)		
AX3	Maecker, H.T. and Levy, S., "Normal Lymphocyte Development but Delayed Humoral Immune Response in CD81-null Mice", <i>J. Exp. Med.</i> , 185(8):1505-1510 (1997)		
AY3	Miyazaki, T., et al., "Normal Development But Differentially Altered Proliferative Responses of Lymphocytes in Mice Lacking CD81", <i>EMBO J.</i> , 16(14):4217-4225 (1997)		
AZ3	Tsitsikov, E.N., et al., "Impaired CD19 Expression and Signaling, Enhanced Antibody Response to Type II T Independent Antigen and Reduction of B-1 Cells in CD81-Deficient Mice", <i>Proc. Natl. Acad. Sci., USA</i> , 94:10844-10849 (1997)		
AR4	Andria, M. L., et al., "Genomic Organization and Chromosomal Localization of the TAPA-1 Gene", <i>The Journal of Immunology</i> , 147(3):1030-1036 (1991)		
AS4	Levy, Shoshana, et al., "Structure and Membrane Topology of TAPA-1", <i>The Journal of Biological Chemistry</i> , 266(22):14597-14602 (1991)		
AT4	Benhamou, M., et al., "Protein Tyrosine Kinases in Activation Signal of Human Basophils Through the Immunoglobulin E Receptor Type I", <i>Journal of Leukocyte Biology</i> , 59:461-470 (1996)		
AU4	Fleming, Tony J., et al., "Negative Regulation of Fc $\epsilon$ RI-mediated Degranulation by CD81", <i>J. Exp. Med.</i> , 186(8):1307-1314 (1997)		
EXAMINER		DATE CONSIDERED	